

## CLAIMS

1. A method for purifying a 3-hydroxyalkanoic acid copolymer produced by a microorganism,  
5        which comprises treating an aqueous suspension containing the 3-hydroxyalkanoic acid copolymer separated from a microorganism with a hydrogen peroxide while controlling the pH of said aqueous suspension by adding an alkali either continuously or intermittently.  
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2. The purification method according to Claim 1, wherein the pH of the aqueous suspension is controlled to be between 7 and 13.
- 15        3. The purification method according to Claim 1 or 2, wherein the concentration of hydrogen peroxide in the aqueous suspension is in a range of 0.01 to 1 % by weight.
- 20        4. The purification method according to any one of Claims 1 to 3, wherein the 3-hydroxyalkanoic acid copolymer is a copolymer of D-3-hydroxyhexanoate and one or more other D-3-hydroxyalkanoic acids.
- 25        5. The purification method according to any one of Claims 1 to 3, wherein the 3-hydroxyalkanoic acid copolymer is a copolymer constituted of at least two species of monomers selected from a group consisting of 3-hydroxypropionate,  
30        3-hydroxybutyrate, 3-hydroxyvalerate, 3-hydroxyhexanoate, 3-hydroxyheptanoate and 3-hydroxyoctanoate.
- 35        6. The purification method according to any one of Claims 1 to 3, wherein the 3-hydroxyalkanoic acid copolymer is a binary

copolymer derived from D-3-hydroxyhexanoate and D-3-hydroxybutyrate, or a ternary copolymer derived from D-3-hydroxyhexanoate, D-3-hydroxybutyrate and D-3-hydroxyvalerate.

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7. The purification method according to any one of Claims 1 to 6,

wherein the microorganism producing the 3-hydroxyalkanoic acid copolymer is a microorganism belonging to the genus *Aeromonas*.

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8. The purification method according to Claim 7, wherein the microorganism producing the 3-hydroxyalkanoic acid copolymer is *Aeromonas caviae* or *Aeromonas hydrophila*.

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9. The purification method according to any one of Claims 1 to 6,

wherein the microorganism producing the 3-hydroxyalkanoic acid copolymer is a cell strain of microorganism transformed by a poly-3-hydroxyalkanoic acid synthase group gene derived from *Aeromonas caviae*.

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10. The purification method according to any one of Claims 1 to 9,

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wherein the aqueous suspension of the 3-hydroxyalkanoic acid copolymer is obtainable by; solubilizing the total or part of cell constituent substances other than the 3-hydroxyalkanoic acid copolymer to separate the 3-hydroxyalkanoic acid copolymer by adding an alkali simultaneously with physical disruption while stirring a suspension of a 3-hydroxyalkanoic acid copolymer-containing strain, and

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suspending the 3-hydroxyalkanoic acid copolymer in water.

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